REMARKS

Amendments

Claims 20-22 are amended to incorporate the limitations of canceled claims 23-25; claims 26-28 are also canceled to reduce issues on appeal. These amendments present no new claimed subject matter, reduce issues for appeal, and introduce no new matter.

The only statute relied upon for the pending rejections is the written description requirement of 35USC112, first paragraph. The written description requirement does not require the applicant to describe exactly the subject matter claimed, instead the description must clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed (Moba B.V. v. Diamond Automation Inc., 66 USPQ2d 1429, CA FC 2003).

The pending claims consist of protein claims 17, 18 and 19, and corresponding method claims 20-28. Claim 19 is allowed; hence, the rejection relies on distinguishing claims 17 and 18 from claim 19 with respect to the written description:

> Claim 17 recites an isolated protein comprising a human c-IAP BIR motif comprising SEQ ID NO:9, wherein the BIR motif provides a protein:protein interaction domain which binds human TRAF1 or TRAF2.
>
> Claim 18 recites an isolated protein comprising two of the following three cIAP BIR domains: a first domain comprising SEQ ID NO: 5 or 6, a second domain comprising SEQ ID NO: 7 or 8, and a third domain comprising SEQ ID NO: 9 or 10, wherein the protein binds human TRAF1 or TRAF2.
>
> Claim 19 recites an isolated human c-IAP comprising SEQ ID NO:2.

All three claims recite a protein "comprising" a specified sequence; hence, all three claims are open to arbitrary additional components or residues, so long as the requisite amino acid sequence is present.

Claim 17 requires a protein comprising SEQ ID NO:9. This sequence defines a novel

third cIAP "BIR domain", defined by residues 287-334 of SEQ ID NO:2, which sequence is separately disclosed as SEQ ID NO:9. The claim expressly requires that the recited domain provides a protein:protein interaction domain which binds a TRAF1 or TRAF2.

The Specification expressly informs that the invention includes deletion mutants of cIAP (SEQ ID NO:2) which have a disclosed cIAP specific activity (p.3, lines 4-7). The Specification informs that the cIAP BIR domains (e.g. SEQ ID NO:9) represent novel protein:protein interaction domains (Specification, p.12, lines 13-14). The Specification teaches how multiple BIR domains can be mixed-and-matched in functional recombinant chimeras (e.g. Specification, p.12, lines 10-14). The Specification shows in experimental detail how to screen for interactions of such BIR domain containing proteins with proteins like TRAF1 and TRAF2 (e.g. Specification, p.11, line 27 - p.14, line 13). Accordingly, the Specification conveys both possession and use of proteins comprising the specifically recited cIAP BIR domain.

The Action's discussion of protein structure and function is not on point, and inapt is the Action's resort to drama and obfuscation: discerning and even practicing the invention does not require invoking Holy Grails or legendary knights of King Arthur; the invention does not relate to some hypothetical 3rd cIAP protein, nor does the invention require determining three dimensional molecular structures of anything. The present invention and relevant issues are much more mundane. A novel protein interaction domain is disclosed. The ability to recombine this domain into functional chimeric proteins is disclosed. And the claims are properly limited to a protein specifically comprising the novel interaction domain.

Those skilled in the art would have to close their eyes to not recognize Applicant's disclosure of cIAP BIR domains (e.g. SEQ ID NO:9) as protein:protein interaction domains which binds TRAF1 and TRAF2, and how chimeric proteins comprising cIAP BIR domains are readily constructed and screened for TRAF1 and TRAF2 binding. In fact, those skilled in the art were not blind to Applicant's teachings: shortly after publishing their findings on cIAP BIR protein:protein interaction domains, another group reported that a single cIAP BIR domain is sufficient to bind and inhibit caspase-7 (Takahashi et al., 1998, J Biol Chem 273, 7787-90, attached).

Claim 18 requires two of the following three cIAP BIR domains: a first domain

comprising SEQ ID NO: 5 or 6, a second domain comprising SEQ ID NO: 7 or 8, and a third domain comprising SEQ ID NO: 9 or 10, wherein the protein binds human TRAF1 or TRAF2.

The Specification expressly informs that the invention includes deletion mutants of cIAP (SEQ ID NO:2) which have a disclosed cIAP specific activity (p.3, lines 4-7). The Specification informs that the cIAP BIR domains (e.g. SEQ ID NO:9) represent novel protein:protein interaction domains (Specification, p.12, lines 13-14). The Specification teaches how multiple BIR domains can be mixed-and-matched in functional recombinant chimeras (e.g. Specification, p.12, lines 10-14). The Specification shows in experimental detail how to screen for interactions of such BIR domain containing proteins with proteins like TRAF1 and TRAF2 (e.g. Specification, p.11, line 27 - p.14, line 13). In fact, the Specification expressly informs that the subject proteins comprise "in particular, at least two of a first domain repeat comprising SEQUENCE ID NO: 5 or 6; a second domain repeat comprising SEQUENCE ID NO: 7 or 8; and a third domain repeat comprising SEQUENCE ID NO: 9 or 10" (Specification, p.2, lines 14-16). Accordingly, the Specification conveys both possession and use of proteins comprising the specifically recited cIAP BIR domain functional combinations.

The Examiner is invited to call the undersigned if he would like to amend the claims to clarify the foregoing or seeks further clarification of the claim language.

We petition for and authorize charging our Deposit Account No.19-0750 all necessary extensions of time. The Commissioner is authorized to charge any fees or credit any overcharges relating to this communication to our Dep. Acct. No.19-0750 (order T95-005-2).

Respectfully submitted,
SCIENCE & TECHNOLOGY LAW GROUP

Richard Aron Osman, J.D., Ph.D., Reg. No. 36,627
Tel: (650) 343-4341; Fax: (650)343-4342

encl. Takahashi et al. (4 p.)

"To Help Our Customers Get Patents"
Mission Statement, USPTO External Customer Services Guide